Email: orders@icstation.com

ICs & Robot Gadgets
Easy Deal Easy Fun

1.Introduction:

D2-4 is a Infrared Remote Control Intelligent Car DIY Kit. Users can control various operating states of the smart car through an infrared remote control, such as forward, turns left, turns right, stop, and also adjust the speed of movement.

It's a DIY kit which comes with various components. User need to install each component by hand. It not only can exercise and improve soldering skills, but also increase the interest in electronic technology.

Great for electronics hobbyists, beginners, school and home education.It is a very interesting DIY electronic product which enables users to understand the circuit more clearly and learn soldering skills.



2.Feature:

1>.Infrared remote control
2>.Multiple exercise modes:Forward, left turn, right turn, stop
3>.Controllable operating speed
4>.DIY Hand Soldering
5>.Easy installation and fast operation

3.Parameter:

1>.Product Name:D2-4 Infrared Remote Control Intelligent Car DIY Kit
2>.Work Voltage:DC 4.5V
3>.Power Type: AA*3 Battery(NOT Include)
4>.Work Current:<100mA

5>.Work Temperature:-20℃~85℃

6>.Work Humidity:5%~85%RH

7>.Size(Installed):155x85x50mm

4.Remote Control:

1>.Button ‘ 1 ’ : Turns Left and Forward at the same time.

2>.Button ‘ 2 ’ : Forward.

3>.Button ‘ 3 ’ : Turns Right and Forward at the same time.

4>.Button ‘ 4 ’ : Turns Left.

5>.Button ‘ 5 ’ : Stop.

6>.Button ‘ 6 ’ : Turns Right.

7>.Button ‘ + ’ : Increase Speed.

8>.Button ‘ - ’ : Decrease Speed.

9>.LED1 Indicator: Left motor work indicator.

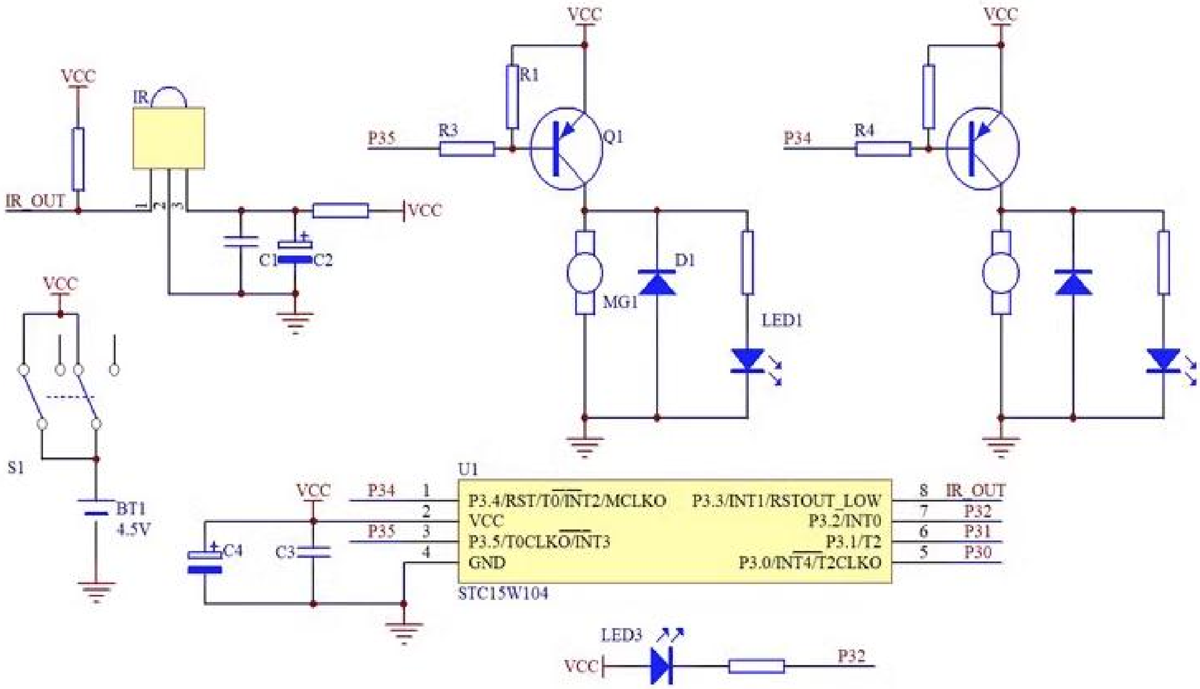
10>.LED2 Indicator: Right motor work indicator.

11>.LED3 Indicator: Remote control signal receive indicator.

5.Component Listing:

NO.	Component Name	PCB Marker	Parameter	QTY
1	Metal Film Resistor	R5,R6,R9	1Kohm	3
2	Metal Film Resistor	R1,R2	3.3Kohm	2
3	Metal Film Resistor	R3,R4	10ohm	2
4	Metal Film Resistor	R7	10Kohm	1
5	Metal Film Resistor	R8	220ohm	1
6	Ceramic Capacitor	C1	0.1uF 104	1
7	Monolithic Capacitor	C3	0.1uF 104	1
8	Electrolytic Capacitor	C4	470uF	1
9	Electrolytic Capacitor	C2	100uF	1
10	1N4148 Diode	D1,D2	DO-35	2
11	VS1838B Infrared Receiver	IR	3Pin	1
12	5mm Red LED	LED1-LED3	2Pin	3
13	Self-locking Switch	S1	8*8mm	1
14	S8550 Transistor	Q1,Q2	TO-92	2
15	STC15W104 Controller	U1	DIP-8	1
16	IC Socket	U1	DIP-8	1
17	1:48 TT Motor	MG1,MG2		2
18	Remote Control			1
19	AA*3 Battery Box	BT1		1
20	Black Rubber Tires			2
21	Yellow Rubber Wheel			2
22	Wire		4Pin*10cm	1
23	M2.2*7mm Self Tapping Screw			2
24	M5*35mm Screw			1
25	M5 Nut			1
26	M5 Nut Ball			1
27	PCB		105*73mm	1
Note:Users can complete the installation according to the PCB silk screen and component list.				

6.Schematic:



7.Note:

1>.It is necessary to exchange the installation positions of the two wires of the motor if the car reverses after installation,

2>.The motor can only run after pressing the remote control.

3>.The motor should be as close to the edge of the PCB as possible to avoid affecting the installation of the wheels and causing them to get stuck by the PCB.

8.Installation Tips:

1>.User needs to prepare the welding tool at first.

1.1>.Soldering iron (<50 Watt)

1.2>.Rosin core ("radio") solder

1.3>.Wire cutters

1.4>.Wire strippers

1.5>.Screwdriver

2>.Please be patient until the installation is complete.

3>The soldering iron can't touch the components for a long time(1.0 second), otherwise it will damage the components.

4>.Pay attention to the positive and negative of the components.

5>.Strictly prohibit short circuit.

6>.User must install the LED according to the specified rules.Otherwise some LED will not light.

7>.Install complex components preferentially.

8>.Make sure all components are in right direction and right place.

9>.Please wear anti-static gloves or anti-static wristbands when installing electronic components.

9.Installation Steps (Please be patient):

1>.Step 1: Install 2pcs DO-35 1N4148 Diode at D1,D2. Pay attention to the installation direction. There is a black mark on 1N4148 and a white mark on PCB which are used to confirm the installation direction.

2>.Step 2: Install 3pcs 1Kohm Metal Film Resistor at R5,R6,R9.

3>.Step 3: Install 2pcs 10ohm Metal Film Resistor at R3,R4.

4>.Step 4: Install 1pcs 220ohm Metal Film Resistor at R8.

5>.Step 5: Install 1pcs 10Kohm Metal Film Resistor at R7.

6>.Step 6: Install 2pcs 3.3Kohm Metal Film Resistor at R1,R2.

7>.Step 7: Install 1pcs DIP-8 IC Socket at U1.There is a gap mark on one end of the IC Socket and there is a gap mark on PCB silk screen where the IC Socket can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.

8>.Step 8: Install 1pcs 0.1uF 104 Ceramic Capacitor at C1.

9>.Step 9: Install 1pcs 0.1uF 104 Monolithic Capacitor at C3.

10>.Step 10: Install 2pcs TO-92 S8550 Transistor at Q1,Q2. Pay attention to the installation direction.

11>.Step 11: Install 3pcs 5mm Red LED at LED1-LED3. Note:The longer pin is positive pole and connect to ‘ + ’ pads which next to arc.

12>.Step 12: Install 1pcs VS1838B Infrared Receiver at IR. Pay attention to the installation direction.

13>.Step 13: Install 1pcs 8*8mm Self-locking Switch at S1. It is power switch.

14>.Step 14: Install 1pcs 470uF Electrolytic Capacitor at C4. Note:The longer pin is positive pole and connect to ‘ + ’ pads.

15>.Step 15: Install 1pcs 100uF Electrolytic Capacitor at C2. Note:The longer pin is positive pole and connect to ‘ + ’ pads.

16>.Step 16: Install 1pcs DIP-8 IC STC15W104 Controller.There is a gap mark on one end of the IC and there is a gap mark on DIP-8 IC Socket where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC.

17>.Step 17: Retain about 5cm wire and fix it on PCB by the double-sided tape on the back. Wires passing through PCB hole and Red connect to ‘ + ’ pad.

18>.Step 18: Install 10cm wires on 2pcs 1:48 TT Motor.

19>.Step 19: Paste 2pcs motors onto the surface of the PCB. Note:The motor should be as close to the edge and front of the PCB as possible to avoid affecting the installation of the wheels and causing them to get stuck by the PCB.

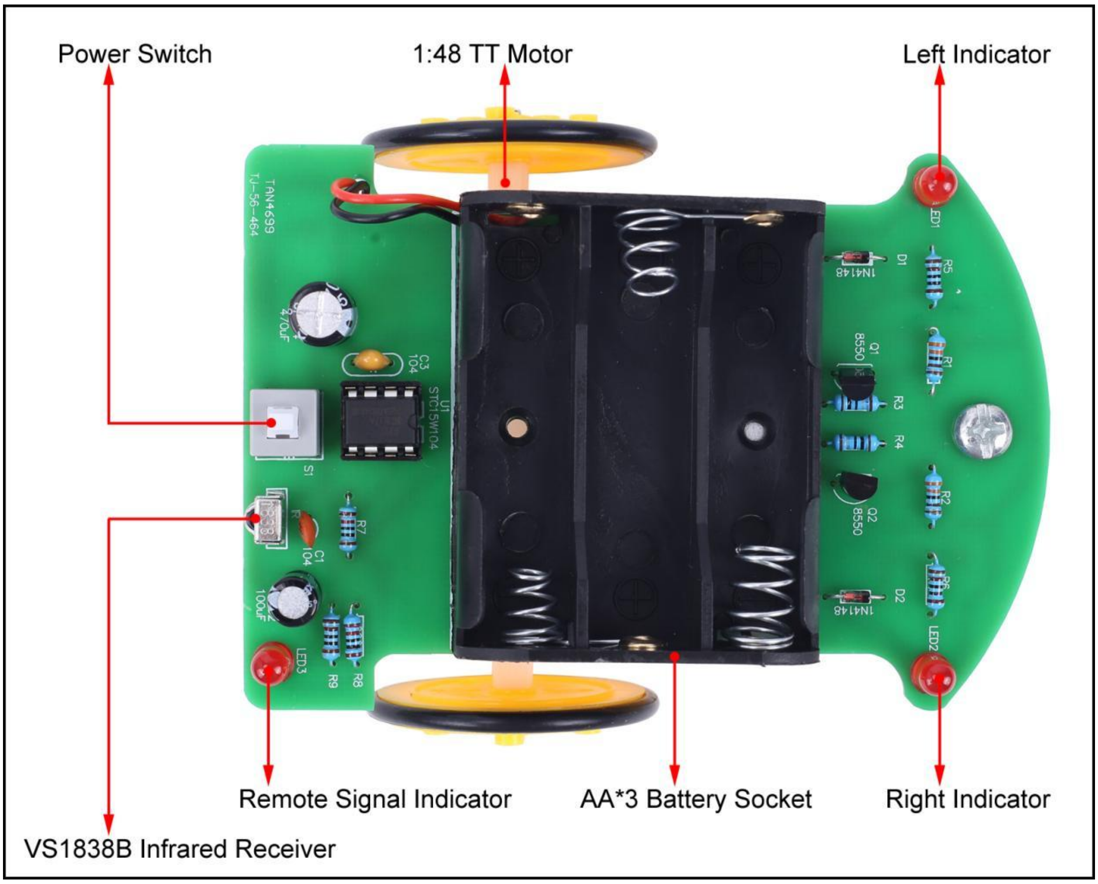
20>.Step 20: Connect 2pcs motor to MG1,MG2. Note: The wire near the PCB is connected to a square pad, and the other wire is connected to a circular pad.

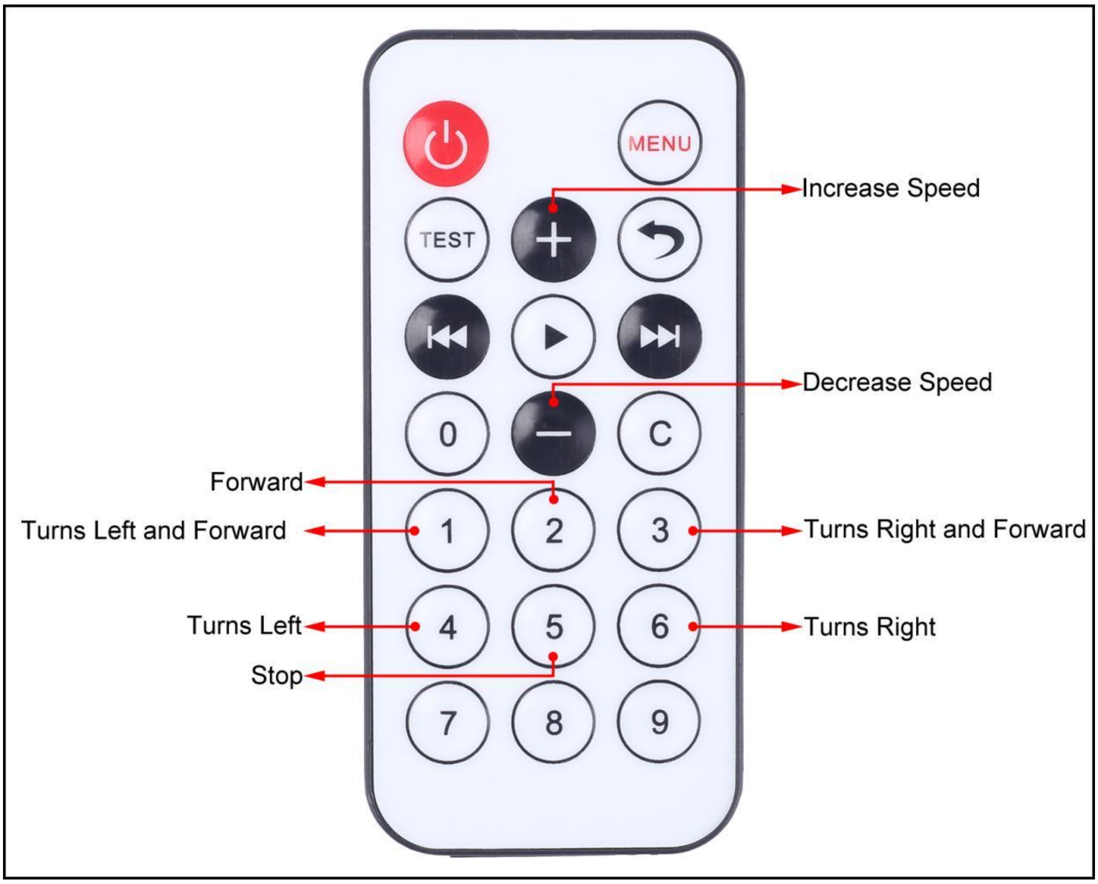
21>.Step 21: Install Black Rubber Tires on Yellow Rubber Wheel.

22>.Step 22: Fix 2pcs Yellow Rubber Wheel on TT Motor by 2pcs M2.2*7mm Self Tapping Screw.

23>.Step 23: Fix M5*35mm Screw by M5 Nut and M5 Nut Ball as front wheel of the car.

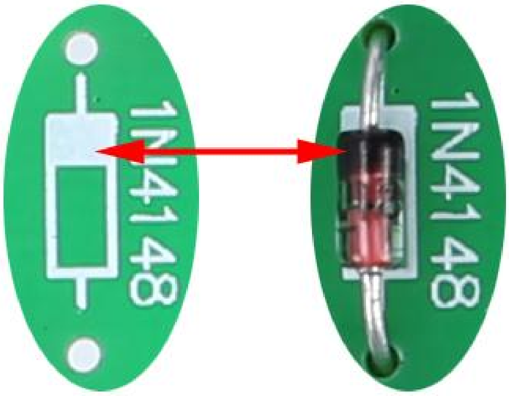
10.Install shown steps:


Power Switch
1:48 TT Motor
Left Indicator
Remote Signal Indicator
AA*3 Battery Socket
Right Indicator
VS1838B Infrared Receiver


Increase Speed
Decrease Speed
Forward
Turns Left and Forward
Turns Right and Forward
Turns Left
Turns Right
Stop

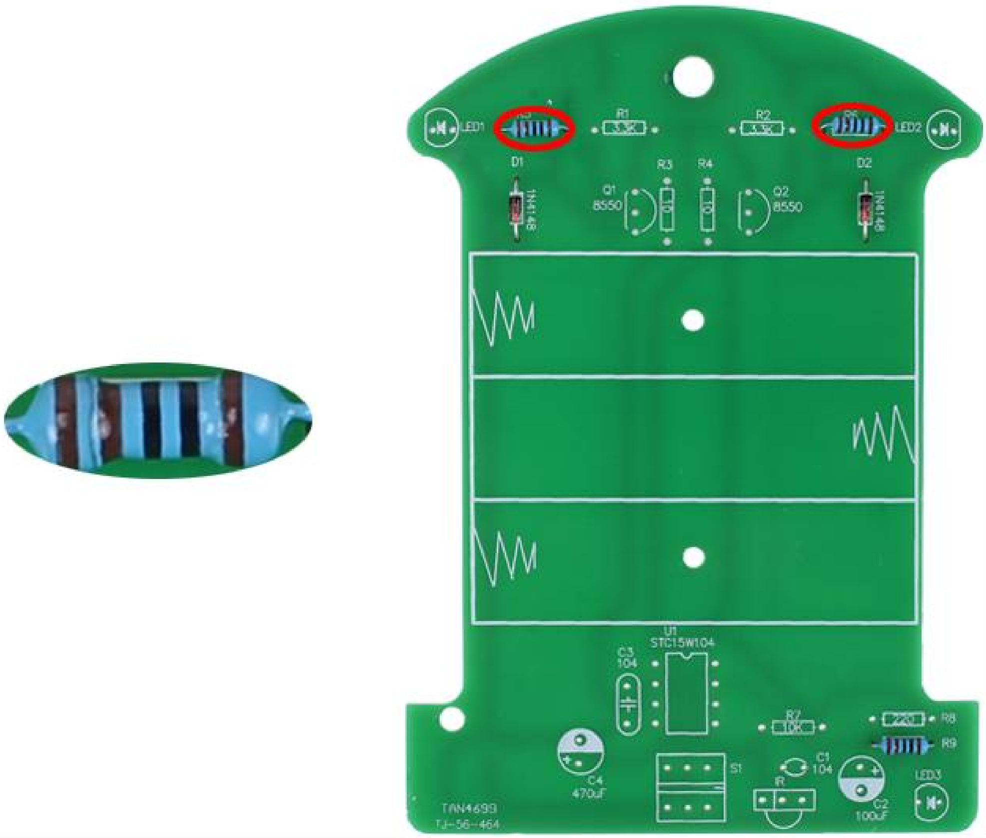
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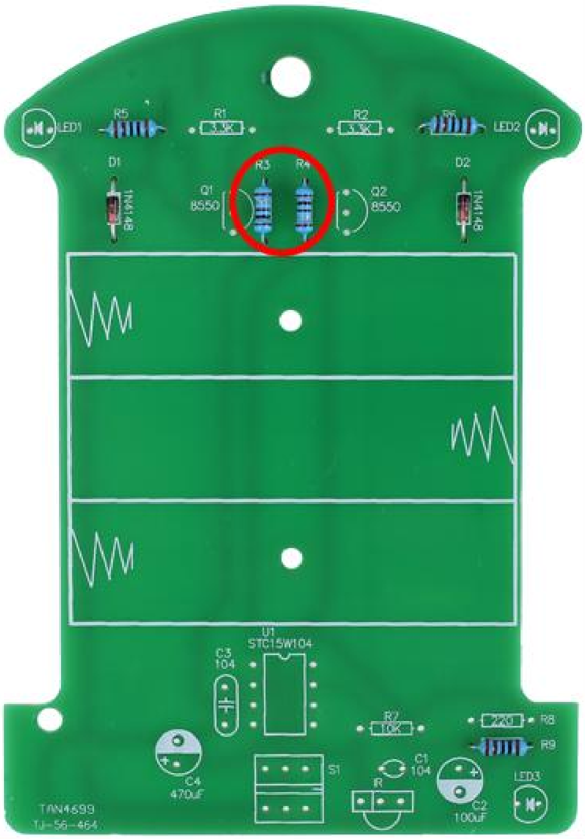


Step 2: Install 3pcs 1Kohm Metal Film Resistor at R5,R6,R9.



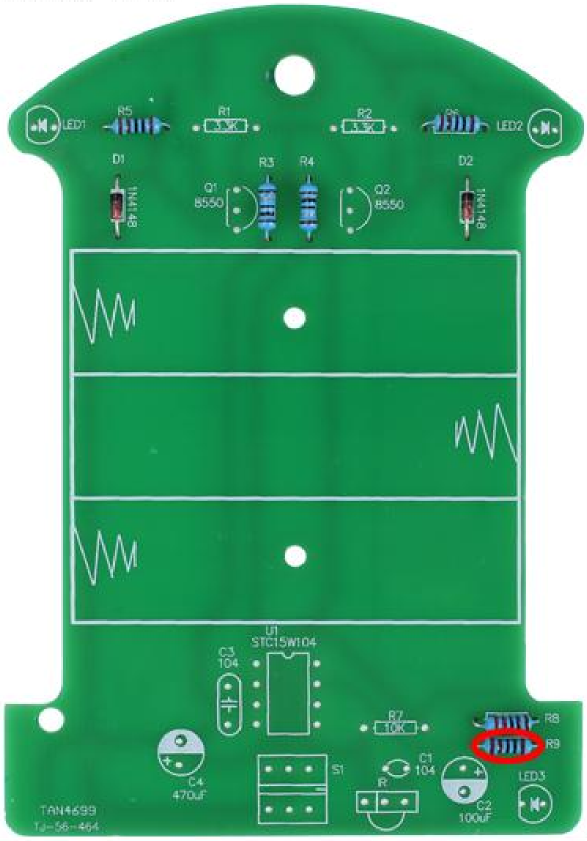
Step 3: Install 2pcs 10ohm Metal Film Resistor at R3,R4.





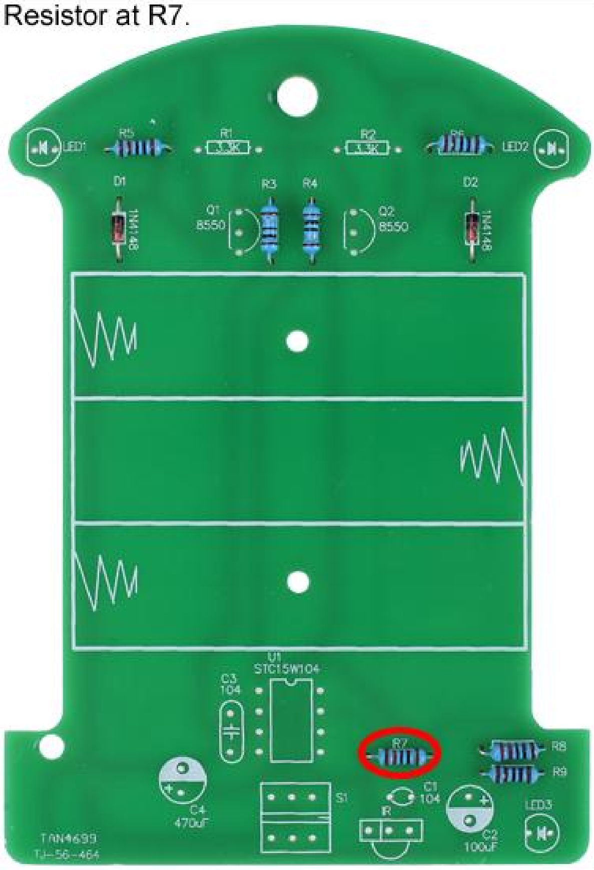
Step 4: Install 1pcs 220ohm Metal Film Resistor at R8.



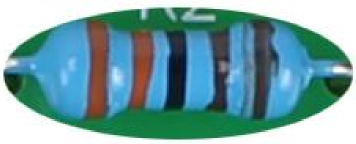


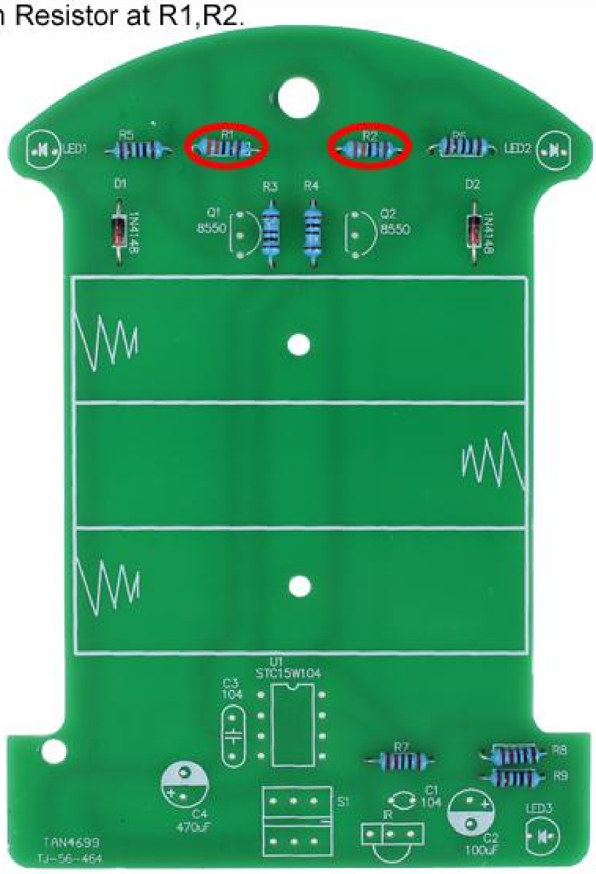
Step 5: Install 1pcs 10Kohm Metal Film Resistor at R7.



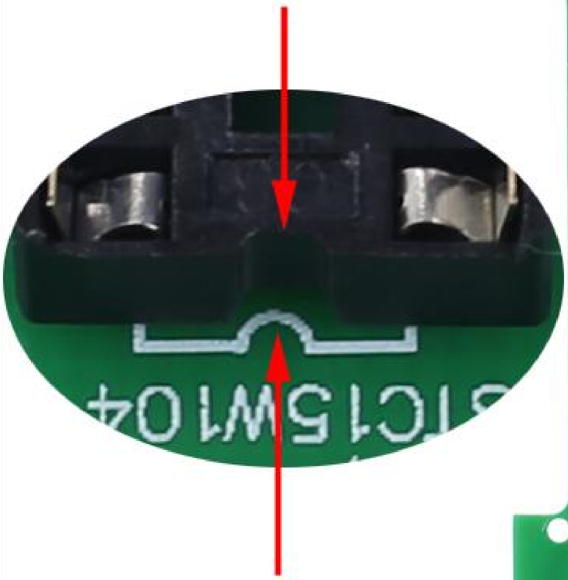


Step 6: Install 2pcs 3.3Kohm Metal Film Resistor at R1,R2.





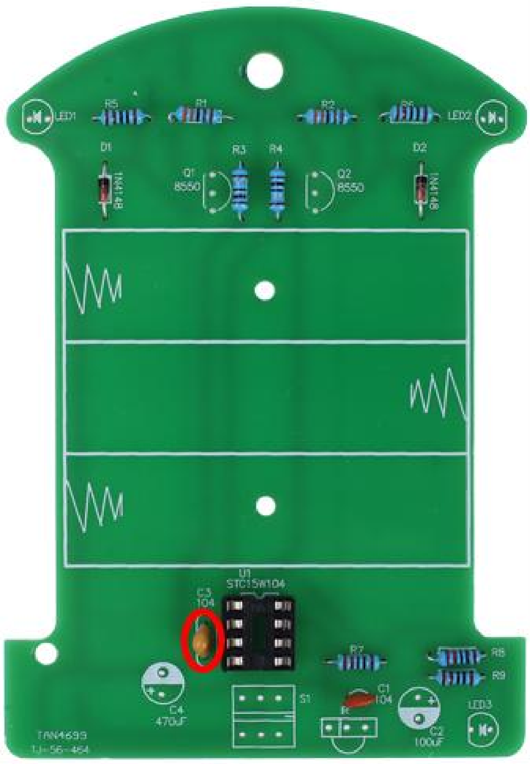
Step 7: Install 1pcs DIP-8 IC Socket at U1.There is a gap mark on one end of the IC Socket and there is a gap mark on PCB silk screen where the IC Socket can place on. These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.





Step 8: Install 1pcs 0.1uF 104 Ceramic Capacitor at C1.
Step 9: Install 1pcs 0.1uF 104 Monolithic Capacitor at C3.





Step 10: Install 2pcs TO-92 S8550 Transistor at Q1,Q2.
Pay attention to the installation direction.



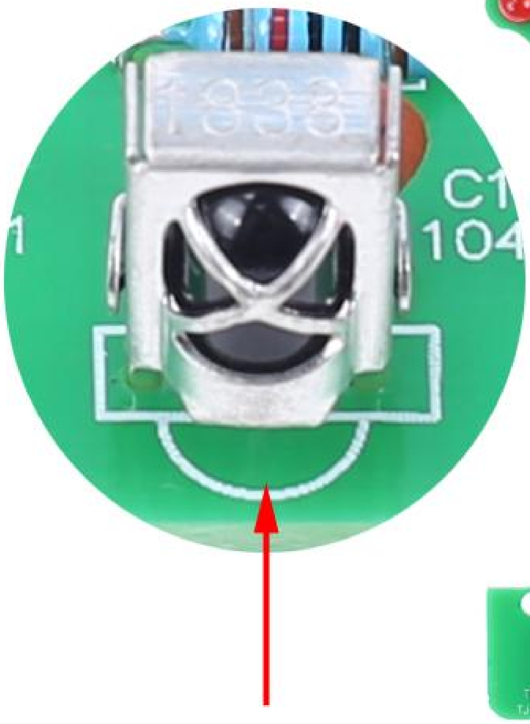


Step 11: Install 3pcs 5mm Red LED at LED1-LED3.
Note:The longer pin is positive pole and connect to ‘ + ’ pads which next to arc.



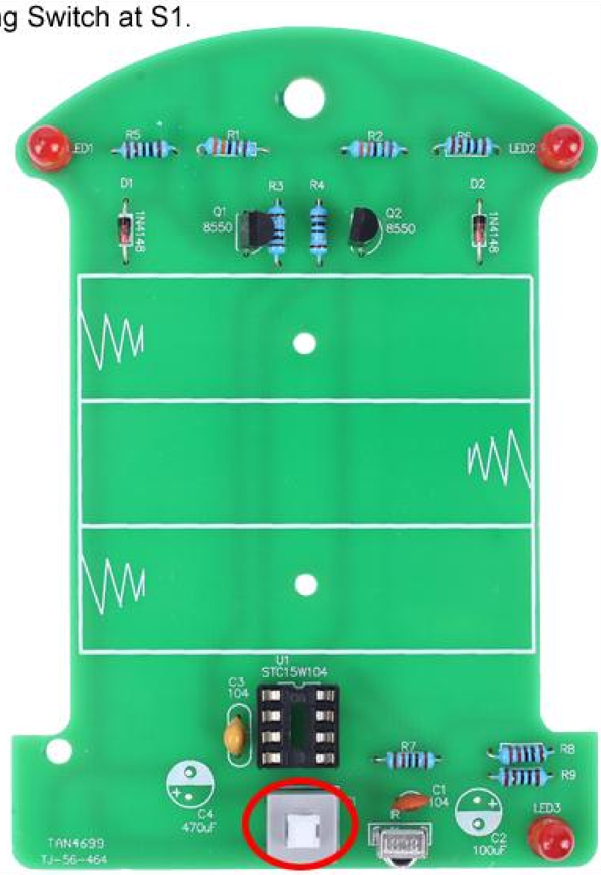


Step 12: Install 1pcs VS1838B Infrared Receiver at IR.
Pay attention to the installation direction.





Step 13: Install 1pcs 8*8mm Self-locking Switch at S1.
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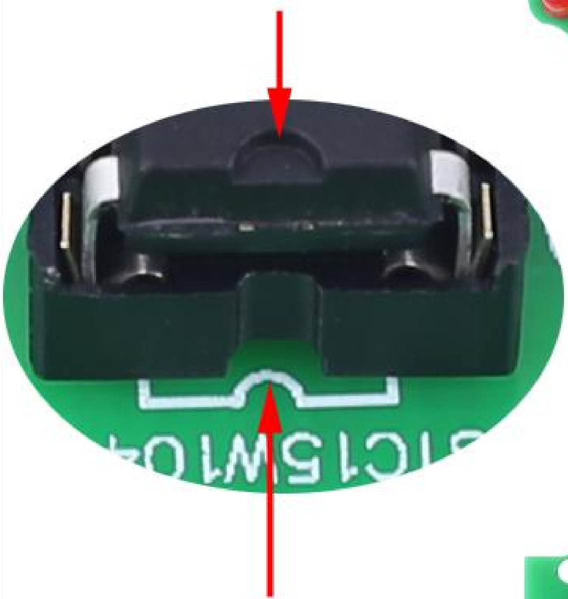
Step 14: Install 1pcs 470uF Electrolytic Capacitor at C4.
Note:The longer pin is positive pole and connect to ‘ + ’ pads.



Step 15: Install 1pcs 100uF Electrolytic Capacitor at C2.
Note:The longer pin is positive pole and connect to ‘ + ’ pads.



Step 16: Install 1pcs DIP-8 IC STC15W104 Controller.There is a gap mark on one end of the IC and there is a gap mark on DIP-8 IC Socket where the IC can place on. These two marks are corresponding to each other and are used to specify the installation direction of the IC.

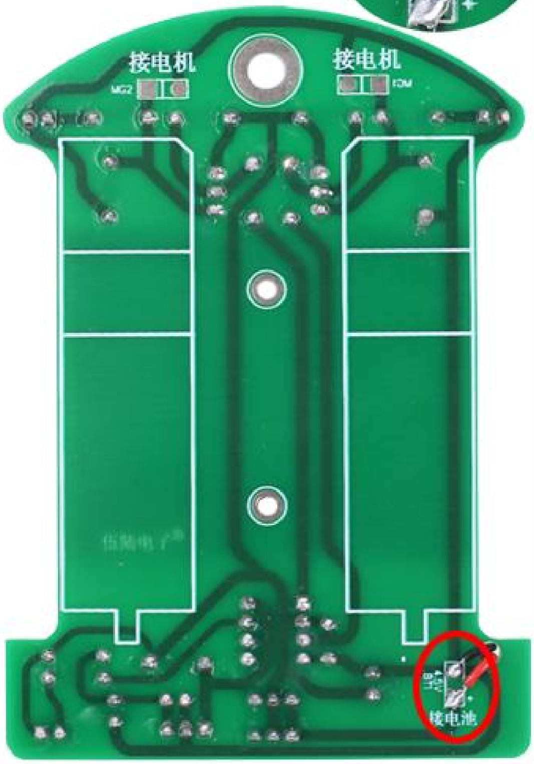




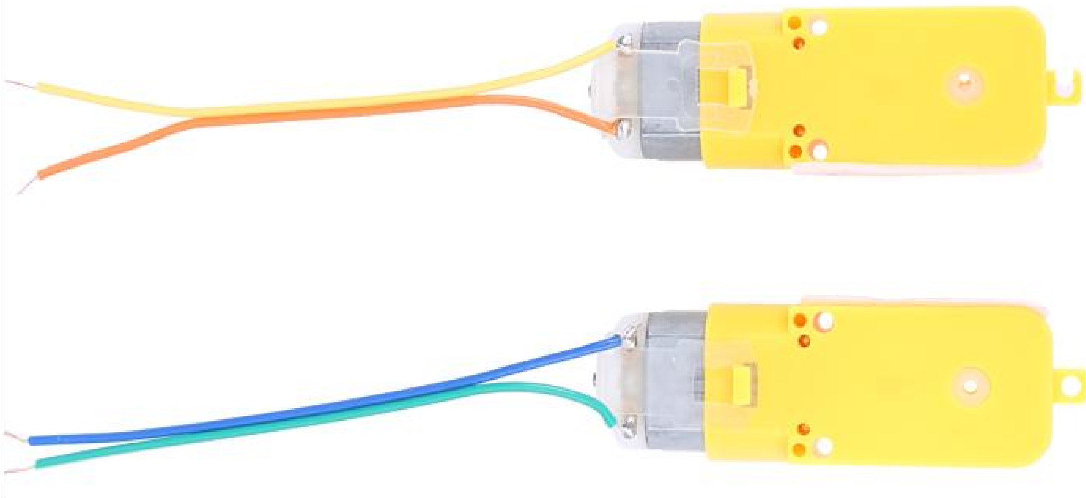
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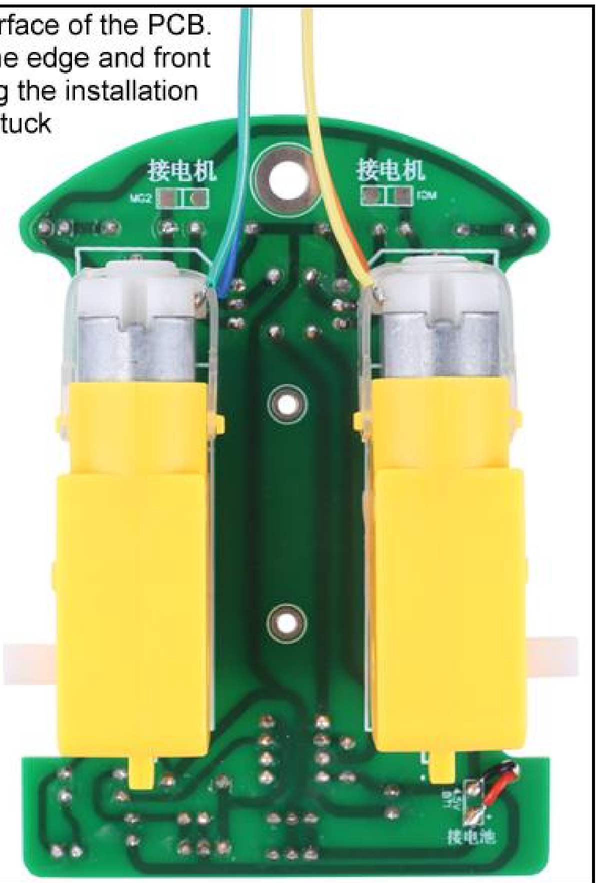




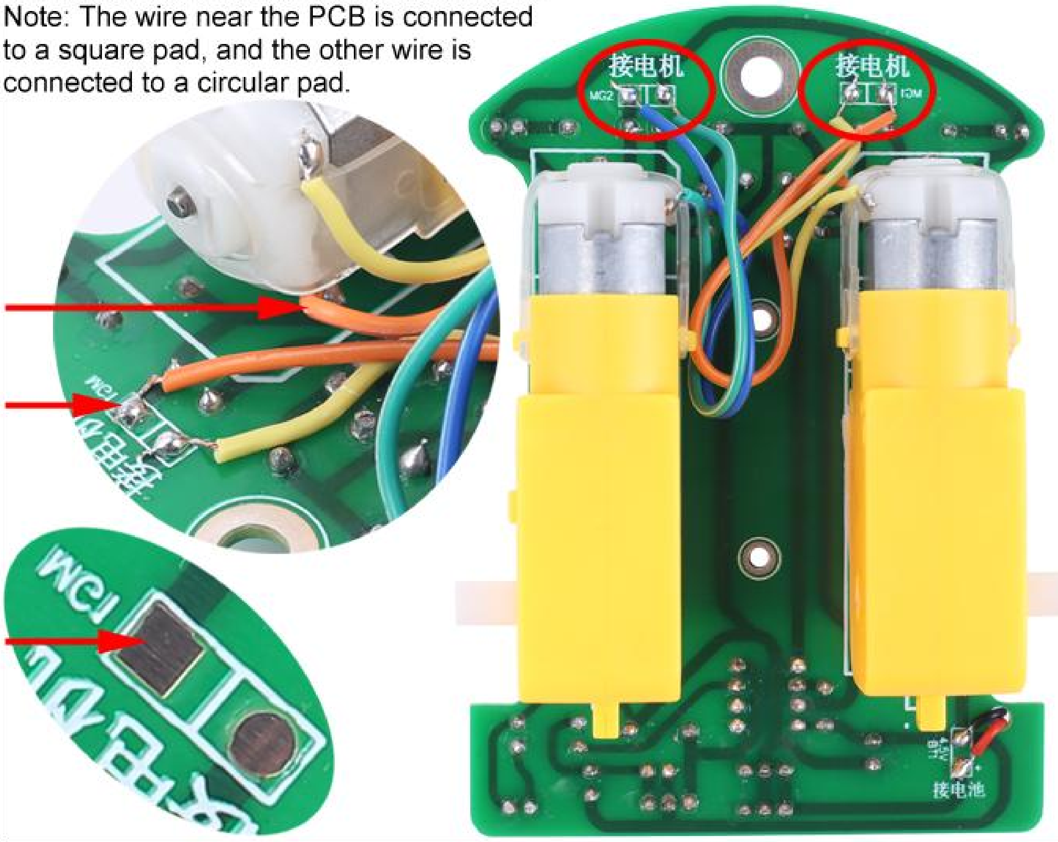
Step 18: Install 10cm wires on 2pcs 1:48 TT Motor.



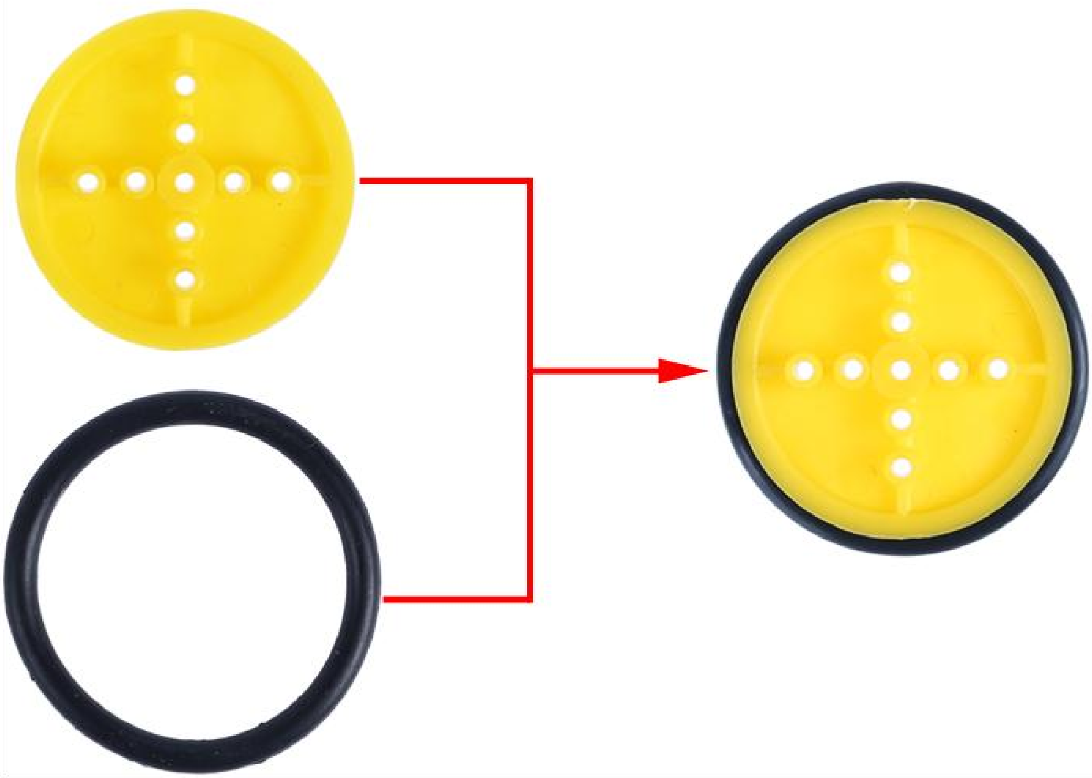
Step 19: Paste 2pcs motors onto the surface of the PCB.
Note:The motor should be as close to the edge and front of the PCB as possible to avoid affecting the installation of the wheels and causing them to get stuck by the PCB.



Step 20: Connect 2pcs motor to MG1,MG2.
Note: The wire near the PCB is connected to a square pad, and the other wire is connected to a circular pad.



Step 21: Install Black Rubber Tires on Yellow Rubber Wheel.



Step 22: Fix 2pcs Yellow Rubber Wheel on TT Motor by 2pcs M2.2*7mm Self Tapping Screw.



Step 23: Fix M5*35mm Screw by M5 Nut and M5 Nut Ball as front wheel of the car.

